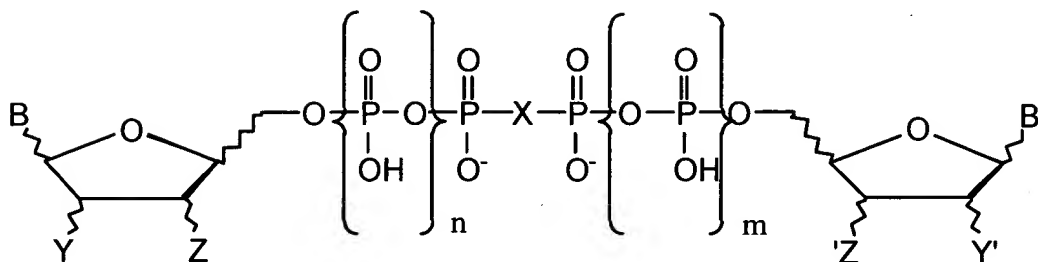


Formula II



wherein:

X is oxygen, methylene, difluoromethylene, imido;

n = 0, 1, or 2;

m = 0, 1, or 2;

n + m = 0, 1, 2, 3, or 4; and

B and B' are each independently a purine residue or a pyrimidine residue linked through the 9- or 1- position, respectively;

Z = OH or N₃;

Z' = OH or N₃;

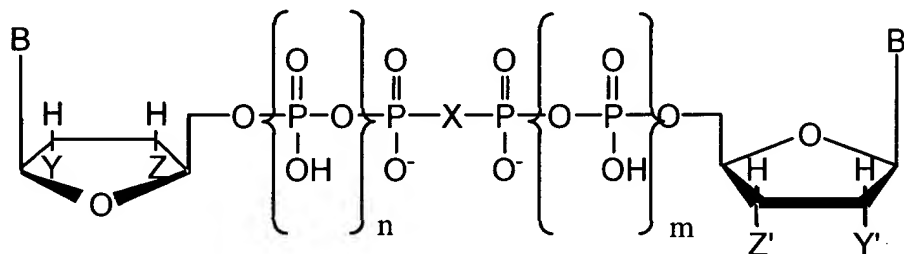
Y = H or OH;

Y' = H or OH;

provided that when Z is N₃, Y is H and when Z' is N₃, Y' is H.

13. The method of Claim 12, wherein the compounds of Formula II are those of Formula IIa:

Formula IIa



wherein:

$X=O$;

$n+m=1$ or 2 ;

Z, Z', Y , and $Y'=OH$;

B and B' are defined in Formulas IIc and IId, or

$X=O$;

$n+m=3$ or 4 ;

Z, Z', Y , and $Y'=OH$;

$B=uracil$;

B' is defined in Formulas IIc and IId; or

$X=O$;

$n+m=1$ or 2 ;

Z, Y , and $Z'=OH$;

$Y'=H$;

$B=uracil$;

B' is defined in Formulas IIc and IId; or

$X=O$;

$n+m=0, 1$, or 2 ;

Z and $Y=OH$;

$Z'=N_3$;

$Y'=H$;

$B=uracil$;

$B'=thymine$; or

X=O;

n+m=0, 1, or 2;

Z and Z'=N₃;

Y and Y'=H;

B and B'=thymine; or

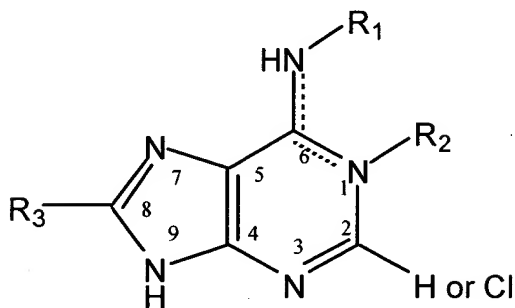
X=CH₂, CF₂, or NH;

n and m=1;

Z, Z', Y, and Y'=OH;

B and B' are defined in Formulas IIc and IId :

Formula IIc



Wherein R₁ of the 6-HNR₁ group and R₃ are chosen from the group consisting of:

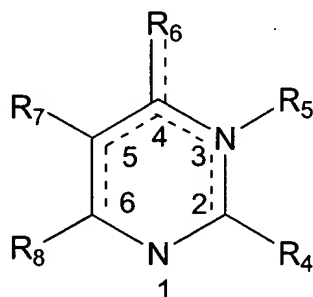
- (a) arylalkyl (C₁₋₆) groups with the aryl moiety optionally substituted,
- (b) alkyl,
- (c) (carbamoylmethyl),
- (d) ω-amino alkyl (C₂₋₁₀),

- (e) ω -hydroxy alkyl (C_{2-10}),
- (f) ω -thiol alkyl (C_{2-10}),
- (g) ω -carboxy alkyl (C_{2-10}),
- (h) the ω -acylated derivatives of (b), (c) or (d) wherein the acyl group is either acetyl, trifluoroacetyl, benzoyl, or substituted-benzoyl alkyl(C_{2-10}),
- (i) ω -carboxy alkyl (C_{2-10}) as in (e) above wherein the carboxylic moiety is an ester or an amide, and
- (j) hydrogen;

R_2 is O or is absent; or

R_1 and R_2 taken together may form optionally substituted 5-membered fused imidazole ring;

Formula II d



wherein:

R_4 is hydroxy, mercapto, amino, cyano, aralkoxy, C_{1-6} alkylthio, C_{1-6} alkoxy, C_{1-6} alkylamino or dialkylamino, wherein the alkyl groups of said dialkylamino are optionally linked to form a heterocycle;


R_5 is hydrogen, acyl, C_{1-6} alkyl, aroyl, C_{1-5} alkanoyl, benzoyl, or sulphonate;

R_6 is hydroxy, mercapto, alkoxy, aralkoxy, C_{1-6} -alkylthio, C_{1-5} disubstituted amino, triazolyl, alkylamino or dialkylamino, wherein the alkyl groups of said

dialkylamino are optionally linked to form a heterocycle or linked to N³ to form an optionally substituted ring; or

R₅ - R₆ together forms a 5 or 6-membered saturated or unsaturated ring bonded through N or O at R₆, wherein said ring is optionally substituted;

R₇ is selected from the group consisting of:

- 
- (a) hydrogen,
 - (b) hydroxy,
 - (c) cyano,
 - (d) nitro,
 - (e) alkenyl, wherein the alkenyl moiety is optionally linked through oxygen to form a ring optionally substituted with alkyl or aryl groups on the carbon adjacent to the oxygen,
 - (f) substituted alkynyl
 - (g) halogen,
 - (h) alkyl,
 - (i) substituted alkyl,
 - (j) perhalomethyl,
 - (k) C₂₋₆ alkyl,
 - (l) C₂₋₃ alkenyl,
 - (m) substituted ethenyl,
 - (n) C₂₋₃ alkynyl and
 - (o) substituted alkynyl when R₆ is other than amino or substituted amino;

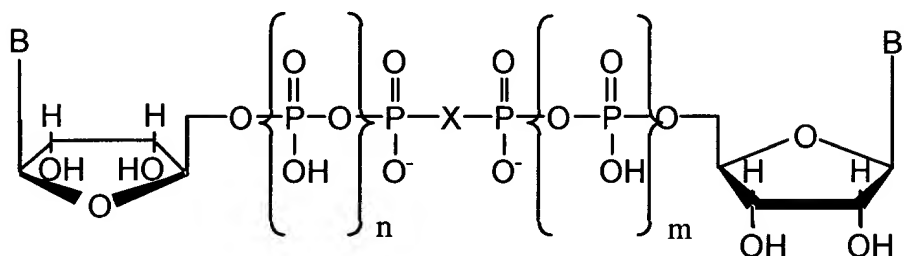
R₈ is selected from the group consisting of:

- (a) hydrogen,
- (b) alkoxy,
- (c) arylalkoxy,

- (d) alkylthio,
- (e) arylalkylthio,
- (f) carboxamidomethyl,
- (g) carboxymethyl,
- (h) methoxy,
- (i) methylthio,
- (j) phenoxy and
- (k) phenylthio.

14. The method of Claim 12, wherein the compounds of Formula II are those of Formula IIb:

Formula IIb



wherein:

X is oxygen, methylene, difluoromethylene, or imido;

n = 0 or 1;

m = 0 or 1;

n + m = 0, 1, or 2; and

B and B' are each independently a purine residue, as in Formula IIc as described in claim 2, or a pyrimidine residue, as in Formula IId as described in claim 2, linked through the 9- or 1-position, respectively; provided that when B and B' are uracil, attached at N-1 position to the ribosyl moiety, then the total of m + n equals 3 or 4 when X is oxygen.